

WE CLAIM

1. An electroluminescent device comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.
2. Device according to claim 1, wherein said polymer or copolymer of a (3,4-dialkoxythiophene) is selected from the group consisting of: poly(3,4-methylenedioxythiophene), poly(3,4-methylenedioxythiophene) derivatives, poly(3,4-ethylenedioxythiophene), poly(3,4-ethylenedioxythiophene) derivatives, poly[3,4-(propylenedioxy)thiophene], poly[3,4-(propylenedioxy)thiophene] derivatives, poly(3,4-butylenedioxythiophene), poly(3,4-butylenedioxythiophene) derivatives and copolymers therewith.
3. Device according to claim 1, wherein at least one of two said electrodes further comprises a polyanion compound.
4. Device according to claim 3, wherein said polyanion compound is poly(styrene sulfonic acid).
5. Device according to claim 1, wherein a dielectric layer is inserted between said phosphor layer and said second conductive electrode.
6. A display comprising an electroluminescent device comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in

which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.

- 5 7. A lamp comprising an electroluminescent device comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second
10 conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy
15 bridge.
8. A process for producing an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode
20 and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in
25 which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, comprising the steps of: (i) coating a transparent or translucent support with a solution, a dispersion or a paste of a polymer or copolymer of a 3,4-dialkoxythiophene to
30 produce said transparent or translucent first conductive layer; (ii) coating said first conductive layer with a layer comprising an electroluminescent phosphor; (iii) optionally coating said layer comprising an electroluminescent phosphor with a dielectric layer; and (iv) coating said dielectric layer
35 if present, or said layer comprising the electroluminescent phosphor if no dielectric layer is present, with a solution, dispersion or paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene to produce said second conductive layer, wherein said polymer or copolymer of said 3,4-
40 dialkoxythiophene in the solution, dispersion or paste used in step (i) may be the same or different from said polymer or

copolymer of said 3,4-dialkoxythiophene used in the solution, dispersion or paste used in step (iv).

9. Process according to claim 8, wherein said paste is an aqueous
5 paste.
10. Process according to claim 8, wherein said transparent
solution or dispersion is an aqueous solution or dispersion.
- 10 11. A process for producing an electroluminescent device,
comprising a transparent or translucent support, a transparent
or translucent first electrode, a second conductive electrode
and an electroluminescent phosphor layer sandwiched between
said transparent or translucent first electrode and said
15 second conductive electrode, wherein said first and second
electrodes each comprises a polymer or copolymer of a 3,4-
dialkoxythiophene, which may be the same or different, in
which said two alkoxy groups may be the same or different or
together represent an optionally substituted oxy-alkylene-oxy
20 bridge, comprising the steps of: (i) coating a support with a
solution, dispersion or paste comprising a polymer or
copolymer of a (3,4-dialkoxythiophene) to produce said second
conductive layer; (ii) optionally coating said second
conductive layer with a dielectric layer; (iii) coating said
25 dielectric layer if present, or said second conductive layer
if no dielectric layer is present, with a layer comprising an
electroluminescent phosphor; and (iv) coating said layer
comprising said electroluminescent phosphor with a transparent
solution, dispersion or paste comprising a polymer or
30 copolymer of a (3,4-dialkoxythiophene) to produce said
transparent or translucent first conductive layer, wherein
said polymer or copolymer of a (3,4-dialkoxythiophene) in said
solution, dispersion or paste used in step (i) may be the same
or different from said polymer or copolymer of a (3,4-
35 dialkoxythiophene) used in said transparent solution,
dispersion or paste used in step (iv).
12. Process according to claim 11, wherein said paste is an
aqueous paste.

13. Process according to claim 11, wherein said transparent paste is an aqueous transparent paste.
14. A process comprising the steps of: using a transparent paste comprising a polymer or copolymer of a 3,4-dialkoxythiophene, a polyacrylate thickener and a glycol derivative, and optionally a surfactant for producing an electrode of an electroluminescent device comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge.
15. A process comprising the steps of: using an electroluminescent device, comprising a transparent or translucent support, a transparent or translucent first electrode, a second conductive electrode and an electroluminescent phosphor layer sandwiched between said transparent or translucent first electrode and said second conductive electrode, wherein said first and second electrodes each comprises a polymer or copolymer of a 3,4-dialkoxythiophene, which may be the same or different, in which said two alkoxy groups may be the same or different or together represent an optionally substituted oxy-alkylene-oxy bridge, in illuminated posters and signage.